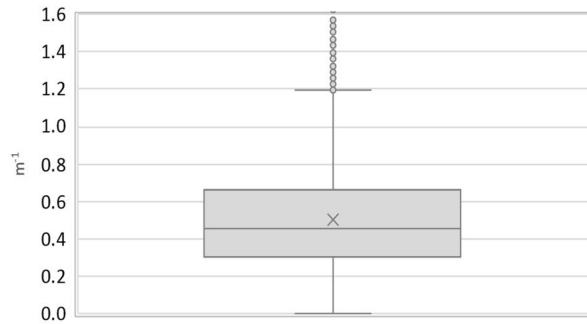


Region:		Liguria					Archetype code: RES_APPBLOCK_ -1950_D_LIG	
Building category:		Residential buildings – Apartments in multi-family block						
Period of construction:		-1950						
Climatic zone:		D	Number of records:		31070			
Description: <u>External walls</u> : no data available <u>Roof slabs</u> : no data available							Data sources: EPC databases (100%)	
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Q2 (Median value)	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	n_f	-	-	-	-	-	-
	Gross height	H_g	m	-	-	-	-	-
	Footprint area	$A_{\text{footprint}}$	m ²	-	-	-	-	-
	Heated gross floor area	$A_{H;g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H;n}$	m ²	-	-	-	-	-
	Heated gross volume	$V_{H;g}$	m ³	-	-	-	-	-
	Heated net volume	$V_{H;n}$	m ³	-	-	-	-	-
	Compactness ratio	$A_{\text{env}}/V_{H;g}$	m ⁻¹	0.50	0.24	0.31	0.46	0.66
	WWR – North orientation	WWR_N	-	-	-	-	-	-
	WWR – South orientation	WWR_S	-	-	-	-	-	-
	WWR – East orientation	WWR_E	-	-	-	-	-	-
	WWR – West orientation	WWR_W	-	-	-	-	-	-
	Window to useful floor area ratio	$A_{\text{wl}}/A_{\text{use}}$	-	0.11	0.04	0.09	0.10	0.11
ENVELOPE	Roof type	-						
	U-value of the roof	$U_{\text{fl;up}}$	W/(m ² ·K)	1.40	0.72	0.91	1.52	1.79
	External walls type	-						
	U-value of the wall	U_{wl}	W/(m ² ·K)	1.67	0.62	1.21	1.57	2.19
	Slab on ground floor type	-						
	U-value of the floor	$U_{\text{fl;lw}}$	W/(m ² ·K)	1.62	0.61	1.33	1.55	1.79
	Windows type	-						
	U-value of the windows	U_W	W/(m ² ·K)	3.87	1.20	3.01	4.00	4.85
Shading system type	-							
GAINS and VENTILATION	Occupancy density *	O_C	person/m ²	UNI EN 16798-1 - Table A.19				
	Lighting power density *	W_L	W/m ²	UNI EN 16798-1 - A.8.3				
	Equipment power density *	W_A	W/m ²	UNI EN 16798-1 - A.8.3				
	Type of ventilation	Natural: 99%; Mechanical: 1%						
	Air exchange rate *	n	h ⁻¹	0.30	0.00	0.30	0.30	0.30
THERMAL SYSTEMS	Heating system type	Unknown: 95%; Autonomous: 5%						
	Heating generator	Traditional boiler: 42%; Unknown: 41%; Condensing boiler: 13%; Air-source heat pump: 3%; Fireplace: 1%						
	Daily operating time of the heating system *	t_H	h	12	0	12	12	12
	Energy carrier	Unknown: 41%; Natural gas: 37%; Electricity and natural gas: 17%; Electricity: 3%; Electricity and solid biomass: 1%; LPG: 1%						
	Heating emission sub-system	Radiators: 55%; Unknown: 41%; Fan-coil: 1%; Air Ducts: 1%; Radiant panels: 1%; Convectors: 1%						
	Cooling system type	Unknown: 93%; Heat pump air-air: 6%; Heat pump air-water: 1%						
	Daily operating time of the cooling system *	t_C	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	-						
	DHW generator	Unknown: 74%; Condensing boiler: 11%; Electric boiler: 8%; Natural gas boiler: 5%; Electric heat pump: 2%						
	* These values were not available in the considered sources, and are thus derived from UNI EN Standards							

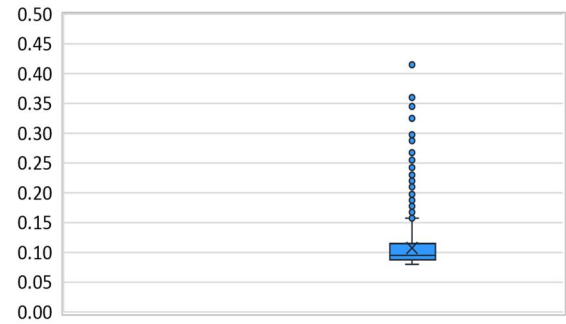
Region:	Liguria	Archetype code: RES_APPBLOCK_ -1950_D_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	-1950	
Climatic zone:	D	
Number of records:		31070

Numerical variables – GEOMETRY

COMPACTNESS RATIO



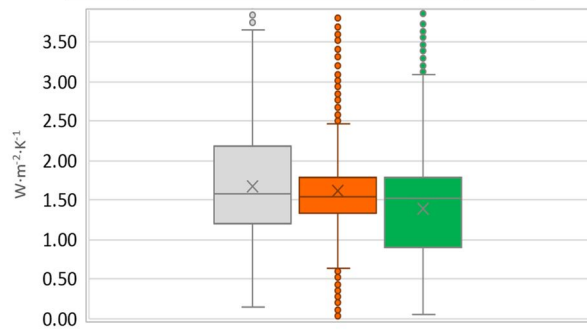
WINDOWS TO WALL RATIO



■ WWR_N ■ WWR_S ■ WWR_E ■ WWR_W ■ Awi/Ause

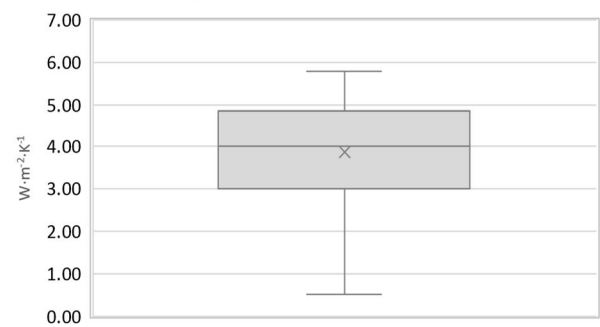
Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



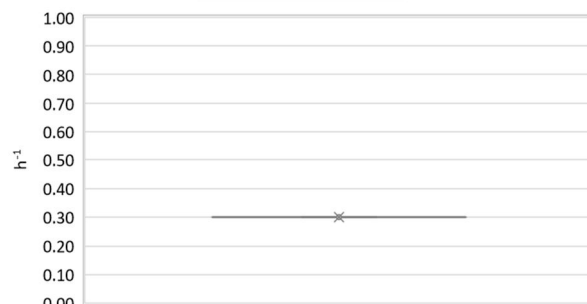
■ External walls ■ Slab on ground floor ■ Roof

WINDOWS U-VALUE



Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE (Standard Values)

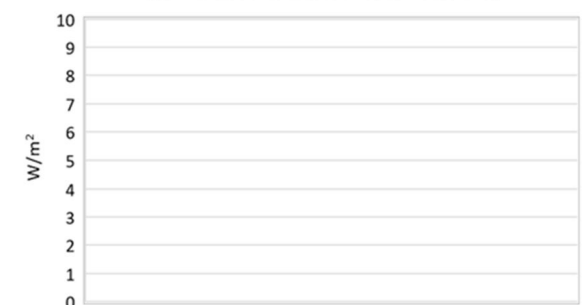
AIR EXCHANGE RATE



OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



DAILY OPERATING TIME



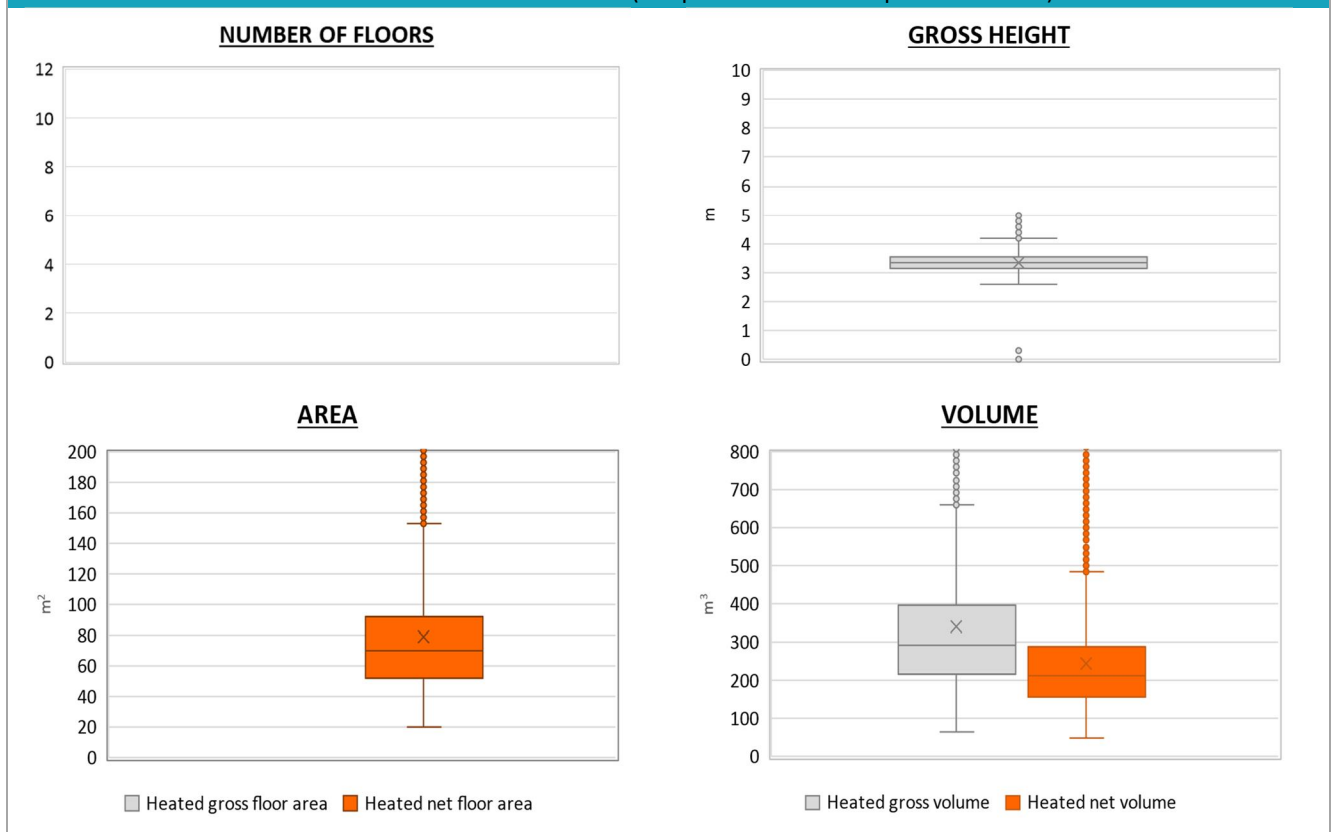
■ Heating ■ Cooling

Region:	Liguria	Archetype code: RES_APPBLOCK_ -1950_D_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	-1950	
Climatic zone:	D	
Number of records:		31070

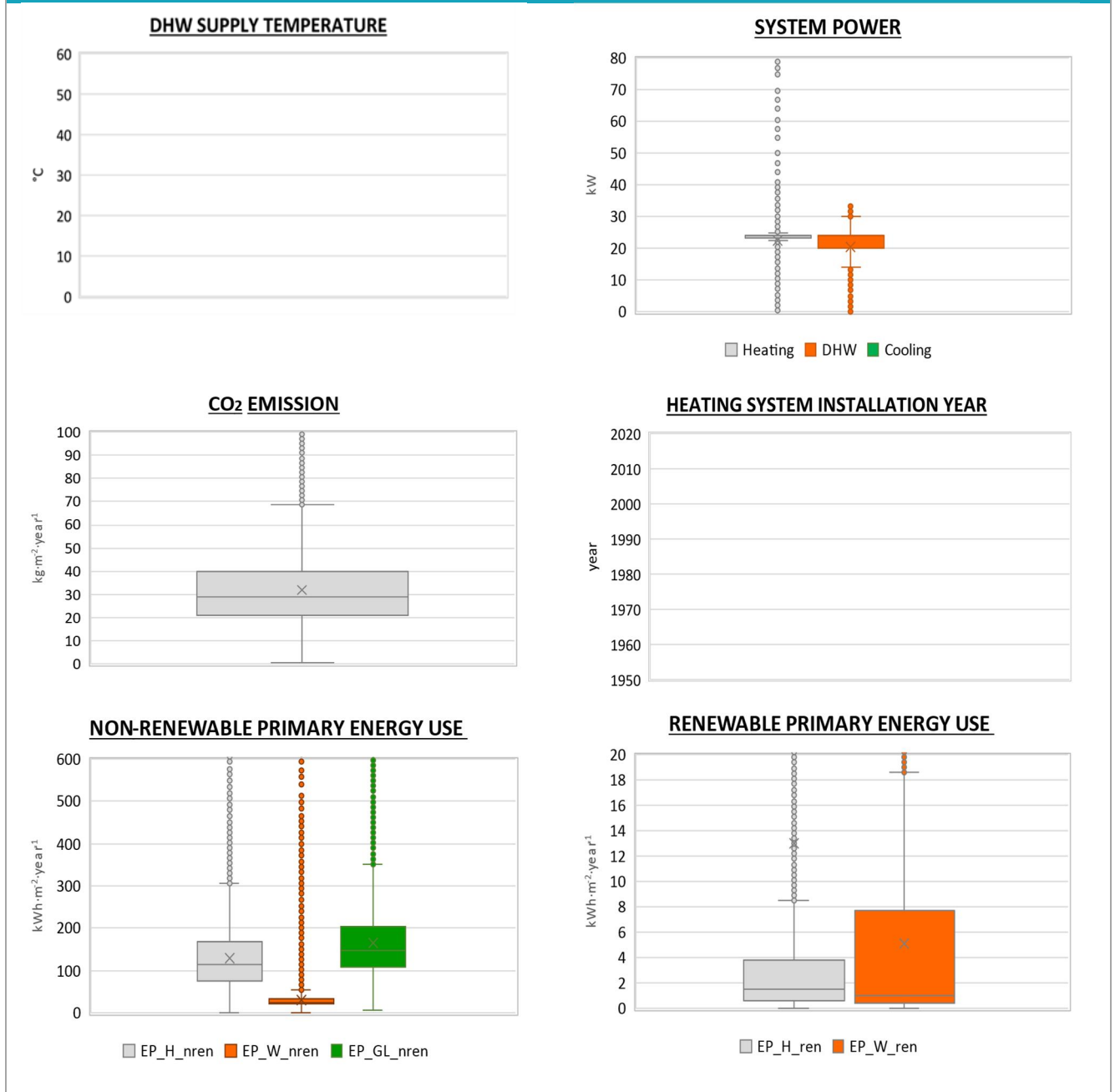
ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
GEOMETRY: apartments	Inter-storey height	H_n	m	3.4	0.4	3.1	3.3	3.6
	Heated gross floor area	$A_{H,g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m ²	79.2	44.2	52.2	69.7	92.4
	Heated gross volume	$V_{H,g}$	m ³	340.7	207.7	218.1	292.6	395.7
	Heated net volume	$V_{H,n}$	m ³	246.6	153.4	155.1	211.3	287.6
THERMAL SYSTEMS	Heating efficiency or <i>COP</i>	$\eta_{H,gen}$ or $COP_{H,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total heating power *	$P_{H,gen}$	kW	22.6	5.9	23.3	24.0	24.0
	Cooling efficiency or <i>EER</i>	$\eta_{C,gen}$ or $EER_{C,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total cooling power *	$P_{C,gen}$	kW	-	-	-	-	-
	Temperature of DHW	θ_w	°C	-	-	-	-	-
	DHW system power *	$P_{W,gen}$	kW	20.3	8.5	20.0	24.0	24.0

* These values refer to the apartment scale

Additional data: GEOMETRY (the plots refer to the apartment scale)



Region:	Liguria	Archetype code: RES_APPBLOCK_ -1950_D_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	-1950	
Climatic zone:	D	
Number of records:		31070

Additional data: other numerical variables that are not included in the archetype


NOTE: Sample size of the analysed data.

Compactness ratio: 30772; Window to useful floor area ratio: 2536; U-value of the roof: 5074; U-value of the wall: 26871; U-value of the floor: 1581; U-value of the windows: 29586; Inter-storey height: 30985; Heated net floor area: 30993; Heated gross volume: 30767; Heated net volume: 30782; Total heating power: 12422; DHW system power: 20560; CO₂ Emission: 30447; EP_H_nren: 30933; EP_W_nren: 29179; EP_GL_nren: 30844; EP_H_ren: 22167; EP_W_ren: 17635